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The Growers Solution

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LATE FALL 2005

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Credibility and Economics for 2006

By Jim Halbeisen

The founders of Growers Chemical Corporation back in 1955 explained to farmers that the Growers Program consisted of high calcium limestone applications to the soil along with using Growers Nutritional Solutions (GNS) for crop fertility. Many today are aware this approach to growing crops is still not endorsed by the majority of university systems in the United States and Canada, much like it was back in 1955. This is quite unfortunate because it has kept many farming operations from considering the Growers Program and GNS.

However, going into the 2006 planting season several events have emerged which may now have farmers reevaluating their thinking.

Dr. V. A. Tiedjens, one of the founders of Growers Chemical Corporation, was recognized world wide as a scientist in plant nutrition. Following sound fundamental scientific research and principles, he developed the Growers Program and formulated GNS. His basic premise being all crops are mostly composed of sunlight, air and water, or the elements carbon, oxygen, and hydrogen. Dr. Tiedjens taught that the main thing farmers needed to do would be to supply clean fertility elements to the plant at critical or stressful times during it's growth cycle, and, if the soil biology was healthy, a large volume of fertility nutrition would not be required for profitable production.

Through the years the agricultural establishment claimed this approach would eventually "wear-out" the soil and "break" the

farmer economically. In that Growers Chemical Corporation has just completed it's Fiftieth (50th) year, operating under the same original ownership, many farmers have come to the realization that the thinking of the agricultural establishment may not be entirely correct.

Over the years, and from scientific stand points, many respected agricultural publications have printed data lending credibility to the Growers Program:

1. Michigan State University research said, "Foliar feeding constitutes one of the important milestones in the progress of agricultural crop production. In fact, this is the most efficient method of applying fertilizer to plants that we

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Ground Not Worn Out After 25 Years

By Jennie Henry

The two photos show Jack Garen's son David standing in the same field, but twenty years apart. When he took the



David grew in 20 years, meanwhile, the soybeans continue to grow.

first photo, Jack was very pleased with his beans after five years on the Program. This summer, remembering the initial photo, he took the second. Of course now David is a strapping six feet tall, but Jack is again pleased with his soybean crop and wanted to show us that after 25 years on the Growers Program, the soil is

still producing great crops.

"Last year," Jack said, "we had roughly ten acres in a DeKalb® test plot in this area. Our average corn yield, weighed and measured, was 217 bushels per acre. We haven't run yet this year, but the beans look really good even though

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Heavy Metals and the CDC

By Jim Halbeisen

The following is a Letter to the Editor we recently sent to the *Wall Street Journal*.

September 30, 2005

Letters to the Editor
The Wall Street Journal
200 Liberty Street
New York, NY 10281

Dear Sirs:

The release of the *Third National Report on Human Exposure to Environmental Chemicals* by the Department of Health and Human Services Centers for Disease Control and Prevention has raised serious discussions, i.e., your articles "Toxic Traces: New Questions about Old Chemicals". The study raised several questions, among them; "Why are the levels of the toxic heavy metal cadmium increasing in the human system?"

As a supplier of quality mineral nutrition for plants and animals since 1955, we have seen alarming cadmium increases in animal tissues which research says is coming from less expensive lower grade feed and fertilizer ingredients.

Agriculture, in its quest for cheaper food, has promoted volume production while ignoring deficiencies in the finished food. The thought is; "an ear of corn is an ear of corn." Correctly, much of the dairy industry rejects this thinking, and, in its efforts to eliminate toxicities, spends large sums analyzing the quality of feed inputs.

It is our contention that the quality of animal feed, as well as the food grown for the human animal, is also a reflection of the condition of the soil used to grow it. Soils receiving nutrition with cadmium in their make up, especially soils having inadequate levels of calcium needed to buffer cadmium and other toxicities, are prone to having toxicities accumulate in the plants they grow.

High production agriculture using low cost inputs is sure to prolong the food quality issue and our resulting failing human health. The issue will not be resolved until enough individuals concerned about their unexplained health problems take seriously the CDC's and other's studies reporting heavy metal accumulations.

James Halbeisen, Director of Research
Growers Chemical Corporation, Milan, Ohio

Study Helps Dairy Find Growers

By Robert Greenfield, Growers Representative

worth doing is a job worth doing well".

There are a multitude of reasons why people get started on the Growers Program, but basically it boils down to their willingness to change their ways of thinking and, ultimately, their ways of doing things. The Parkin family of Owen Sound, Ontario has the prerequisites. Larry, his wife Heather and son Brad run a well kept dairy operation begun by Larry's parents, Gordon and Fern Parkin. Farming about 450 acres of crop land and milking 55 cows in a free stall set up, they are committed to doing, as the old saying goes, "A job

Gordon's interest in cropping and soil health led him to reading many books in the early 90's. These books by Dr. Beddoe, Dr. Tiedjens, Dr. Albrecht, Dr. Carey Reams, Dr. Harold Willis, Dr. Dan Skow and Dr. Arden Anderson documented their research on the health of plants, soil, cattle and humans.

In the winter of 1995, the Parkins were invited to the Shelburne, Ont, farm of John McDonald to hear a presentation put on by a Growers Nutritional Solutions representative. At that meeting pieces of the puzzle that had been forming in Gordon's

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Not Worn Out

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we were short on rain. Both the corn and beans have tremendous root systems, and, of course, they would with 93% base saturation. That's extremely high — and the test is from the Growers lab. That field has had between 15 and 20 ton of high calcium limestone."

Jack continued, "The initial application, 25 years ago, was 5 tons of high calcium limestone per acre. Shortly thereafter, I put another 5 tons down, then applied 2 tons every 4th year. It's been a life saver. About 3 years ago, we put on an additional 2 tons of high calcium lime. Because even with the 93% base saturation, I was seeing visual signs that it needed lime. And it's responded. A farmer needs to know his ground.

"In the past we noticed yellowing in the soybeans which some suggest may be a potassium deficiency. However, soil tests showed potassium was adequate in the top soil. Agricultural Research Service soil scientists have suggested potassium may become 'positionally

unavailable' in minimum till and no-till situations. So, we used 100 pounds of potassium sulfate and the discoloration disappeared. Whether it was the potassium or the sulfur, the problem left with the 100 pounds applied twice in the past 20 years.

"Through the years, it's been a four year rotation for us. But for the last four years, since I've been District Manager, it's been corn and beans. For 17 years there was no additional nitrogen, just Growers. When we dropped the hay out of the rotation, David has had to add nitrogen. This year the corn had about 90 units of N, with 6 gallons of Growers in the row and 2 gallons over the top as a foliar spray. The soybeans are in a drill situation, and they received two separate 2 gallon foliar sprays. Growers is the total fertility for beans."

Jack, of Hillsboro in south-central Ohio, has been on the Growers Program for 25 years, beginning as a customer, then as a sales rep, and now as a Growers District Manager. ■

Purchase Discount

Early Order Discount

November order payments, 8% for December, January 6%, February 4% and March 2%.

November 1, 2005, starts our new 2006 fiscal year. The early order Cash In Advance of Delivery Discounts (CIAD) remains the same as in previous years: 10% for

NOTE: Call your Growers representative for an explanation of the early order discounts, quantity pricing, and delivery of Grower Nutritional Solutions. ■

Credibility

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have yet discovered...If we apply these materials to the leaves in soluble forms, as much as 95 percent of what is applied may be used by the plant. If we apply a similar amount to the soil, we find about 10 percent of it to be used."

Growers Chemical Corporation has advocated using GNS as a foliar spray since 1955.

2. Doane's Ag Professional said, "Although state agronomy guides and other sources often publish values for crop nutrient removal, the original studies on which these values are based are seldom cited. Also, the values that were established in the past may not be correct for current agronomic technologies such as hybrid, higher plant population, yield potential, fertilizer practice, and soil conditions....Even though average values of corn grain nutrient removal in this study are similar to existing reference volumes, the variability seen in this study raises questions about the usefulness of average values for estimating crop nutrient removal across a range of conditions. Future research on nutrient removal should focus on identifying the sources of variation in nutrient concentration in corn grain to enable better monitoring of crop nutrient removal."

Growers Chemical Corporation has consistently stated, since 1955, the bulk of plant tissue (96 to 97%) is carbon, hydrogen, and oxygen. Thus, the nutrient amounts extracted from the soil are not as large as commonly believed and the exact amounts vary considerably.

3. Iowa State University said "From on farm research — which includes 12 years of testing corn stalks from 3200 fields — Blackmer concludes that farmers not only apply too much N, they apply it at the wrong time. Much, or even all, N applied in the fall or early spring can be lost if the weather turns wet. Another finding indicates 100 lb of N per acre in corn - soybean rotations applied in late May or June maximizes yield on most Iowa soils - significantly less than recommended by the 1.2 pound rule....that says you should apply 1.2 pounds of nitrogen (N) for every bushel (of corn) you wish to grow."

Many Growers Chemical Corporation customers significantly reduce the total amount of nitrogen they use to grow grass crops.

4. The United States Department of Agriculture Agricultural Research Services says, "Cooperators report that beneficial arbuscular mycorrhizal (AM) fungi transfer substantial amounts of nitrogen to their plant hosts....the researchers discovered a novel metabolic pathway in which inorganic nitrogen (nutrients) is taken up by the fungi and incorporated into an amino acid called arginine. This amino acid remains in the fungus until it is broken down and transferred to the plant. The results show that the symbiotic relationship

between mycorrhizal fungi and plants may have a much more significant role in the worldwide nitrogen cycle than previously believed. With this in mind farmers may benefit from promoting the proliferation of mycorrhizal fungi through diminished fertilizer input, thereby making more efficient use of the nitrogen stores in agricultural soils."

Since 1955 Growers Chemical Corporation has asserted heavy metals present in most fertility sources can be harmful to the soil biology that helps plants better utilize soil nutrients.

5. In the *United States Environmental Protection Agency's Watershed Events* Growers Chemical Corporation said, "By using The (Growers) Program farmers have significantly lowered their use of applied nitrogen while maintaining sound economic productivity."

Actually, the word from these scientific publications has done little to have farmers purchasing GNS for 50 years. Rather, results, especially economic, quality and quantity results have kept them using GNS and the Growers Program. In the past, peer pressure has kept many from investigating the economics of GNS, but now, significant increases in bulk fertilizer costs have producers everywhere asking GNS representatives about the economics of GNS. Because most GNS representatives are or have used GNS in their own operations, their answers will be credible.

We at Growers Chemical Corporation consistently see producers raising very competitive corn crops, in corn and soybean rotation situations, with 4 to 5 gallons of GNS (which has a very low heavy metal concentration so as not to injure mycorrhizal fungi) per acre, placed in the seed trench at planting, followed with a foliar spray of about 2 gallons per acre. Some operators incorporate other foliar applications with their GNS foliar sprays.

Foliar spraying puts GNS's nitrogen into the plant later in the season which is a more efficient time for utilization, and that can help reduce the crop's total nitrogen needs.

Typical Corn Programs vs. the GNS Program

Now, we need to compare the economics of GNS recommendations with typical corn fertility treatments. Namely, Growers recommendation of 7 gallons of GNS per acre plus 60 to 100 pounds of a nitrogen source per acre as compared to the cost of, perhaps, a dry fertilizer combination of 19-19-19 and urea or liquid fertilizer combination such as 10-34-0 and 28%. Because many soils now have less natural nitrogen supplying capacities, farmers typically need to apply post-emergence or very late pre-emergence nitrogen at about the 60 to 100 pounds per acre level.

For the 2006 planting season Growers Chemical Corporation is encouraging producers to call their GNS representative for GNS fertility

program pricing which can be compared with the current pricing of any of the bulk fertilizer programs they may have used in the past. Many bulk fertilizer costs have increased from 30 to 80% so producers should find the price or cost comparison quite interesting. Besides the economic advantages to using GNS, it is also noncorrosive, is environmentally friendly and it is not necessary to transport large volumes of nutrient materials.

Farmers who in the past were deterred from examining GNS by peer pressure, the lack of university backing, etc., should now contact a GNS representative to look at targeted plant nutrition. Growers Chemical Corporation thinks the 2006 planting season is the time to act on credibility and economics. ■

On The Road Again Early Fall 2005

Growers Nutritional Solutions is scheduled to set up and staff booths at the following upcoming farm shows and conventions this winter. It's a great time to stop in and review your plant food and animal nutrition needs, hear about new developments at Growers or just chat with the folks who make it all happen — your friends and neighbors.

Jan. 7-14, 2006	Pennsylvania Farm Show Harrisburg, PA
Jan. 10-12	Keystone Farm Show York, PA
Jan. 10-12	New Jersey Vegetable Marketing Atlantic City, NJ
Jan. 10-12	Ontario Landscape Congress Toronto, Ontario, Canada
Jan. 10-12	Le Salon De L'Agriculture St. Hyacinthe, Que, Canada
Jan. 16-21	Delaware Ag Week Harrington, DE
Jan. 17-19	Fort Wayne Farm Show Fort Wayne, IN
Jan. 17-18	Ohio Fruit & Vegetable Show Columbus, OH
Jan. 19-20	Long Island Ag Forum Riverhead, NY
Jan. 24-26	Virginia Farm Show Fishersville, VA
Feb. 7-10	Canadian Int'l Farm Equip Show Toronto, Ontario
Feb. 15-18	Nat'l Farm Machinery Show Louisville, KY

Hope To See You!

Growers NUTRITIONAL SOLUTIONS

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Our Research is Your Profit



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Study

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mind started coming together. Here were people talking about the same things that the Parkins were experiencing on their farm, and they were offering solutions.

Armed with this new information, they returned home and began to implement both aspects of the Growers program. That spring they began applying a byproduct lime (kiln dust) to their fields. (770 tons on approx. 250 acres thus far.) They converted their corn planter from dry to liquid starter in the row, and began to foliage spray some of their crops.

The Parkins' attention to detail is obvious in their efforts to track the progress of their operation by conducting field trials and yield checks. With applying the lime to their fields they have noticed an improvement in soil structure and microbial and earthworm activity. Pentrometer readings are showing an improvement in the soils permeability as well. Yields have remained constant or improved over the years, even though they are following a more environmentally sustainable program.

They have the impression that quality in the crops is improving, but as Larry says, "It is hard

to put a finger on exactly what is happening". Looking back over the years, however, they have noticed fewer pest problems in their crops since they started on the "Growers Program." Interestingly when they embarked on their "Growers Journey" they were told "your soils will be depleted in 5 years," but that has just not happened. If anything, they have improved.

They are still using a dry starter on the small grains, but when the herbicide is applied they add 1 litre of Growers foliage spray per acre. The corn receives 3 gallons Growers in the row and 2 gallons foliage spray. Corn also receives spring applied manure or 50 units of N broadcast which is 34-0-0. The hay receives 2 gallons of GNS after each cutting. Normally only 2 cuttings of hay are taken each year.

In the spring of 2003 they began to feed Growers to their milking cows. With a free stall operation there is lots of extra stress on the feet and legs and they had experienced problems with foot ulcers. Within 2 months of introducing the Growers into the ration the Parkins noticed improvements, and surgery to remove interdigital fibromas from between cows' hooves has been reduced significantly. The cows' feet don't bother them as before and ulcers have been eliminated.

According to Larry they had been faithfully feeding Growers every day at a rate of 2.25 ounces per cow. In late summer of 2004, they had to discontinue for about 6 weeks, but after that time period they got the cows back onto



Robert Greenfield, left, offered solutions to the Parkers, Heather, Larry, Brad and Gordon. Faith, in black and white, is proof of their attention to detail.

Growers. Another 6 weeks passed and they had their hoof trimmer in. While he was trimming he commented that he noticed a change in the hardness of the cows' hooves and asked what had happened in the last 3 months. What he was seeing was a layer of hardness followed by some softer tissue then hardness again. He was able to pinpoint almost to the week when the Growers had been removed from the ration, and, again, when it was reintroduced into the ration. This of course impressed Larry & Heather and raised the eye brows of their hoof trimmer whom they have had coming for almost 6 years now.

Like with so many excellent customers, the Growers Program ends up in their gardens and on their lawns, thus improving soil conditions and providing the nutrients needed for growing quality produce and healthy turf.

It has been my privilege to have the Parkin family as a customer for 10 years now. I get satisfaction seeing the progress that has taken place on their farm over the years and anticipate seeing more growth and improvements in the future. ■

The Growers Solution

Editor: Jennie Henry

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email to: growers@hmcltd.net or see our website: www.growersnutritional.com